



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

647.0116
Job Sheet 168278



Part No: 647.0116

Job Qty: 15 ea

Part Name: Doubler



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/13/17

Job Tracking No:

Due Date: 12/22/17

Created By: Linda Lacelle

Type: Stock

Description:

Customer: Alpine Aerotech LP - Kelowna (CALPI02)

1260 Industrial Road Kelowna, BC, V1Z 1G5 Canada ph:(250) 769-6344 fx:(250) 769-6303.

Note: DWG REV A1 SHEET 6 IPP REV:A 12.08.14 NEW ISSUE DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	15 Ea		12/21/17	0.00	0.00	Start Up Container		OK 17/12/13
110	Waterjet	15 pcs		12/22/17	0.00	0.80	Waterjet1		OK 17/12/13
120	QC	15 pcs		12/22/17	0.00	0.00	QC2		OK 17/12/13
130	QC	15 pcs		12/22/17	0.00	0.00	QC8		38
140	Outsource	15 pcs		12/22/17			ATG001-VC		SJ JAN 23 2018
150	Packaging	15 pcs		12/22/17	0.00	0.00	Packaging2		SJ JAN 23 2018
160	QC	15 pcs		12/22/17	0.00	0.00	QC5		38
190	Packaging	15 pcs		12/22/17	0.00	0.00	Packaging3	LCK 107	AP 18/01/24
200	QC21-SA	15 Ea		12/22/17	0.00	0.00	QC21		

Part Op 110 - 1-Cut as per Dwg

Descriptions: 140 - Issue P/O to ATG :

190 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M2024T3S.032	1	321	0	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Doubler	0.100Inches + 0.004 - 0.001	0.104 0.099	Diameter	
2	Doubler	0.177Inches + 0.005 - 0.001	0.182 0.176	Diameter	
3	Doubler	1.200Inches ± 0.010	1.210 1.190		
4	Doubler	0.900Inches ± 0.010	0.910 0.890		
5	Doubler	1.500Inches ± 0.010	1.510 1.490		
6	Doubler	1.100Inches ± 0.010	1.110 1.090		

**Dart Aerospace Ltd.**

1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA

TEL.: 1 613 632-5200

Email: sales@dartaero.com

www.dartaerospace.com

PART NO: 647.0116
Original Serial #: S021684
Revision:
Operation: Outsource
Change No:

Mfg Date: 12/13/17

Job No: 168278

DART
AEROSPACE
S021684



Doubler

Dart Aerospace Ltd.

1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA

TEL.: 1 613 632-5200

Email: sales@dartaero.com

www.dartaerospace.com

PART NO: 647.0116
Revision:
Operation: Start up Operation
Change No:

Mfg Date: 12/13/17

Job No: 168278

7	Doubler	1.200Inches ± 0.010	1.210 1.190
8	Doubler	1.500Inches ± 0.010	1.510 1.490
9	Doubler	2.700Inches ± 0.030	2.730 2.670
10	Doubler	3.000Inches ± 0.030	3.030 2.970

Plex 12/7/17 3:37 PM dart.poulin.mario

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

03985

SHEET 1 OF 2

DWG NO. 647.0100

REV: A

PREPARED BY J. BECKER

DATE: 7/15/13

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: SHEET METAL

APPROVED BY:

ENGR.

MFG

QC

EFF.

NEXT ORDER

TRANSACTION CODES (TC):

A-ADD
R-REVISEC-CREATE
D-DELETE

REASON: REVISED NOTE 2. ADDED 647.0117

NOTES:

IS

1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.

2 FINISH: IAW MPP-172 ANODIZE IAW SECTION 2.1,
PRETREATMENT IAW SECTION 3.1
AND PRIMER IAW SECTION 4.1.

3. DEBURR AND BREAK ALL SHARP EDGES.

4. IDENTIFY IAW MPP-120.

5 MATERIAL: 304 SS IAW AMS 5643.

6 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N.

7 OTHER DIMENSIONS SAME AS 647.0112.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 168278DAS
30
9-89

NOV 16 2017

SHEET 1, ZONE D1 IS:

	C	647.0117			STRUT BRACKET	△	△
F/NTC	PART NUMBER				DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:					CHANGE CATEGORY	DER REVIEW REQUIRED	
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM					☐ MAJOR ☒ MINOR	☐ YES ☒ NO	

DQA: _____ Date: _____

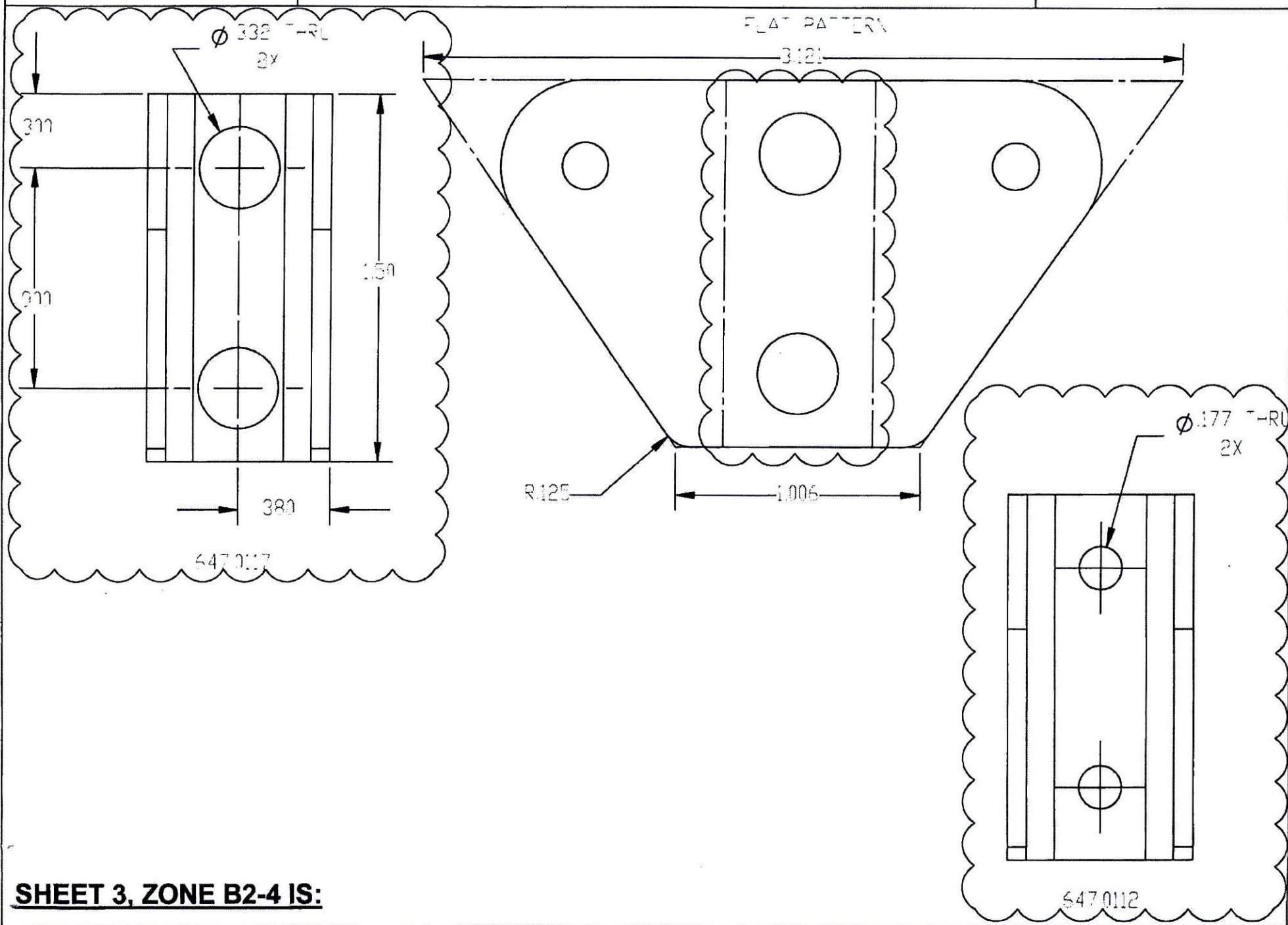


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					



SHEET 3, ZONE B2-4 IS:

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

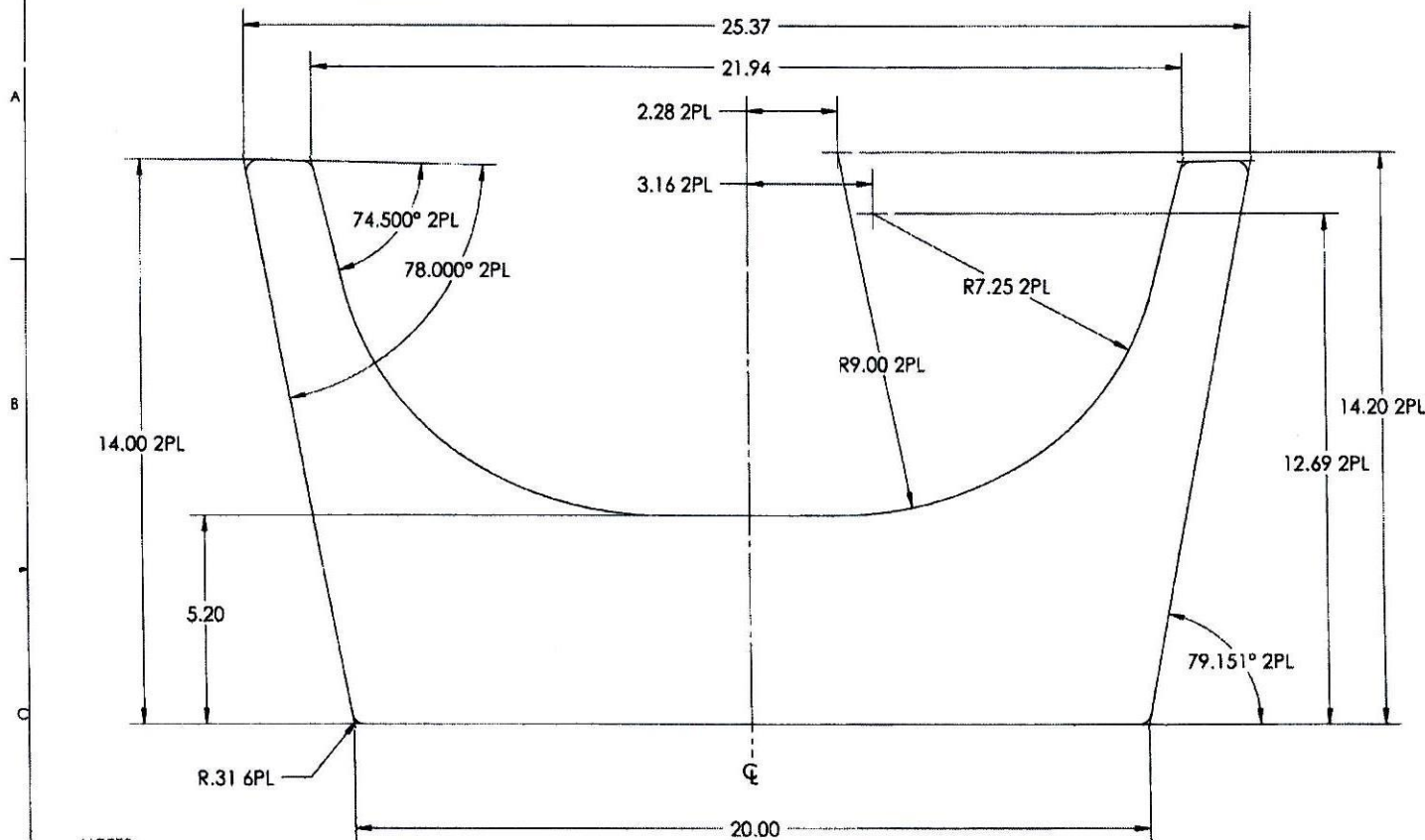
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

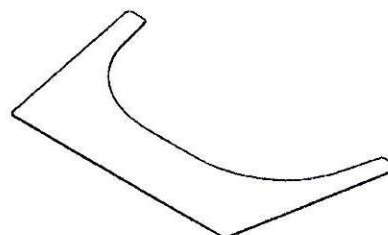
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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION: PPS		N/C
N/C	INITIAL RELEASE	08/28/09	P. BRAVO
A	INCORPORATED ECN 02722, 02964, 03009	04/28/11	P. BRAVO



NOTES:

- 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; PRETREAT PR-148 ADHESION PROMOTER; PRIME IAW MIL-P-23377J TYPE I CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 MATERIAL: 304 SS IAW AMS 5643.
- 6 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N.



647.0110

UNINCORPORATED ECN(s)

03985

QTY	647.0116	DOUBLER	△	△
	647.0115	CLIP	△	△
	647.0114	CLIP	△	△
	647.0113	STRUT DOUBLER	△	△
	647.0112	STRUT BRACKET	△	△
	647.0111	PANEL	△	△
	647.0110	ROOF DOUBLER	△	△
FIND #	PART #	DESCRIPTION	MATL	SPEC.
PARTS LIST				
NEXT ASSY (S)				
646.9500	647.0110	DOUBLER		
UNLESS OTHERWISE SPECIFIED				
DIMENSIONS ARE IN INCHES				
TOLERANCES ARE				
FRACTIONS DECIMALS ± .005				
ANGLES ± .5°				
APICAL INDUSTRIES				
2608 TEMPLE HEIGHTS DR.				
OCEANSIDE, CA. 92056-3512 (760)724-5300				
SHEETMETAL				
REV	647.0100	REV		
SCALE	NONE	SHEET	1 OF 6	

DQA: _____ Date: _____



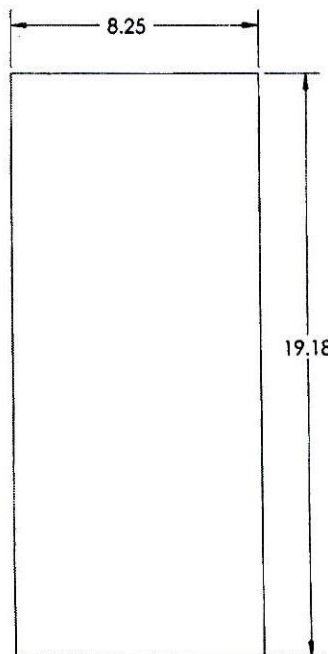
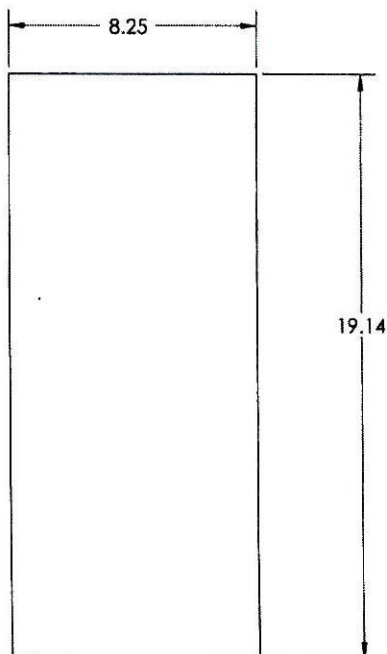
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

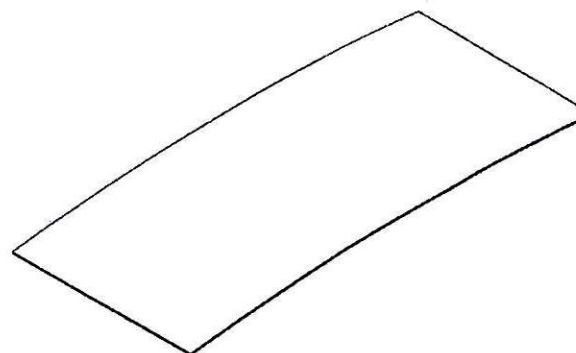
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

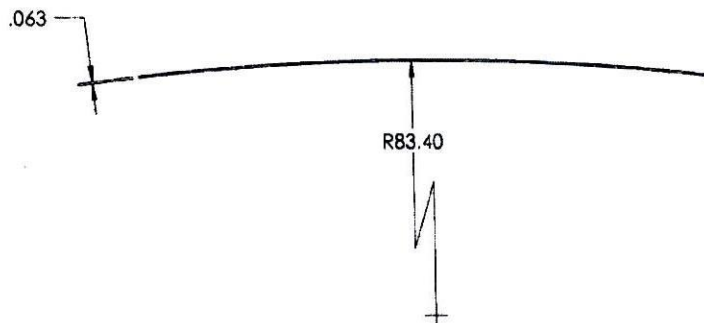
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FLAT PATTERN



647.0111



ORIGINAL DATE 03-28-09		APICAL INDUSTRIES	
DRAWN BY B ROSAHO	CHECKED P BRAVO	2408 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P BRAVO		SHEETMETAL	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 ANGLES ± .5°		REV A	
REV B	CAGE CODE 07M26	DWG. NO. 647.0100	
SCALE: NONE		SHEET 2 OF 6	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

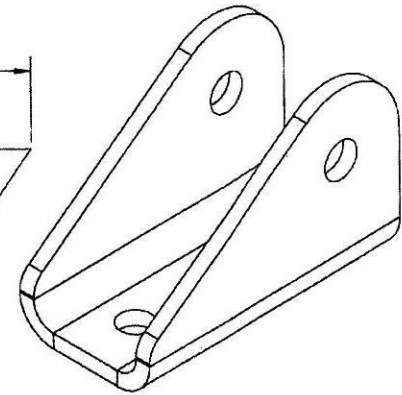
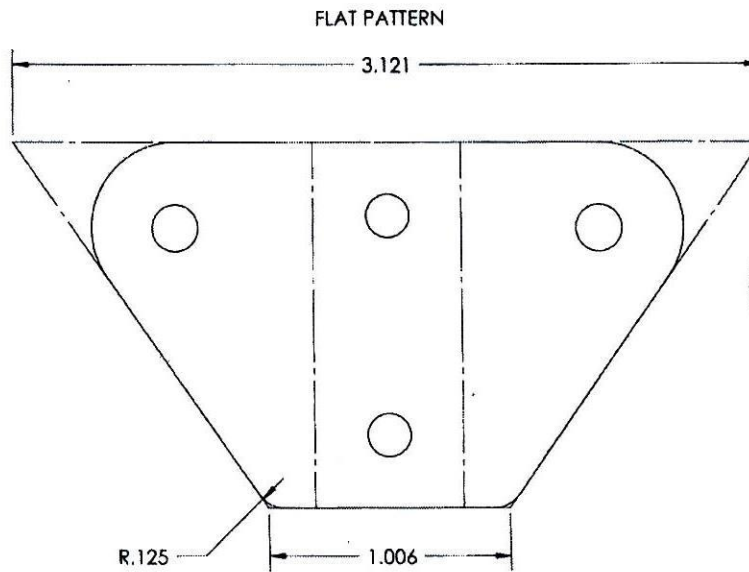
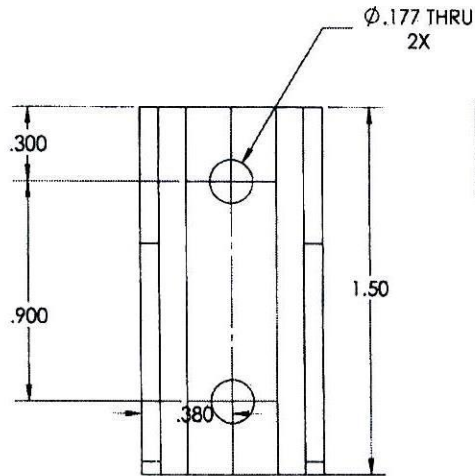
QA Closed: _____ Date: _____

Work Order update only ☐

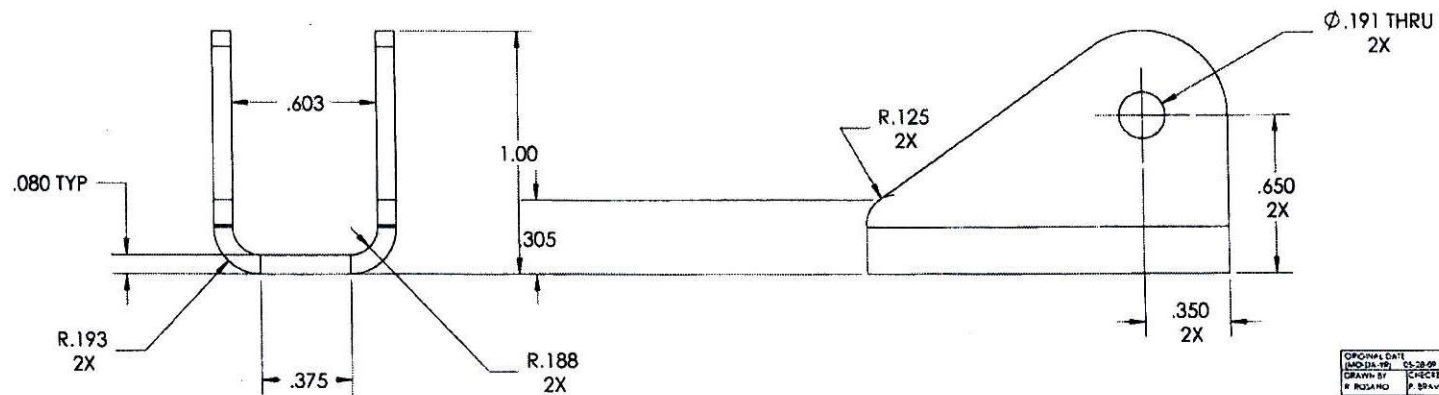
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



647.0112



ORIGINAL DATE 10/01/99		CS-28-09	
DRAWN BY P. BRAYO		CHECKED P. BRAYO	
DESIGNED BY P. BRAYO		APPROVED P. BRAYO	
CONTRACT NO.		SHEETMETAL	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.003 ANGLES 1°		SHEET 3 OF 6	REV A

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

SHEETMETAL

DWG. NO. 647.0100

SCALE NONE

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

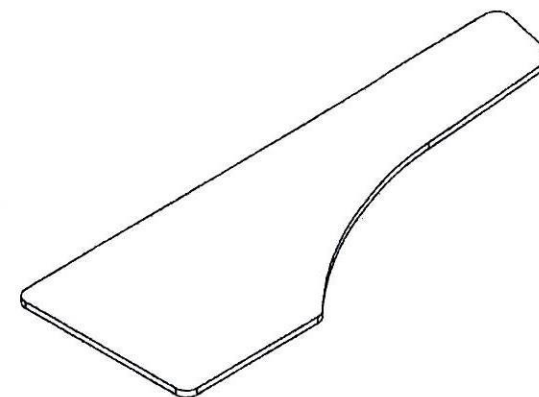
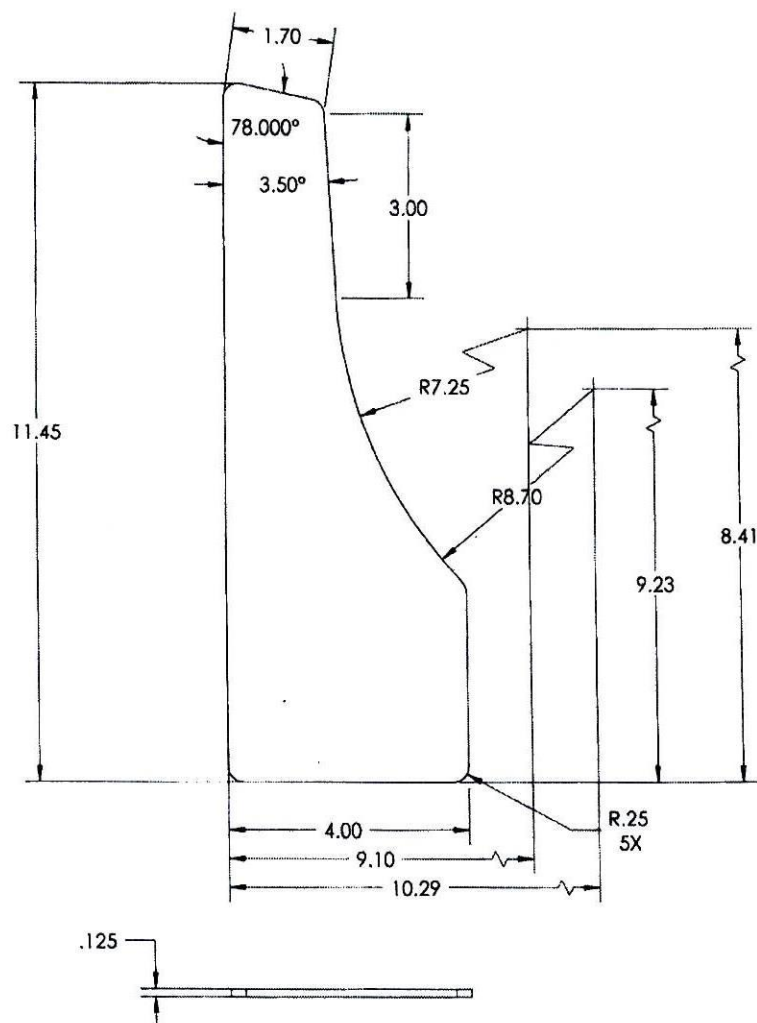
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

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REVISION			
REV	DESCRIPTION	DATE	APPROVED



647.0113

ORIGINAL DATE 11-28-07		APICAL INDUSTRIES	
DRAWN BY P. ROSADO		2808 TEMPLE HEIGHTS DR.	
CHECKED BY P. BRAVO		OCFANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		SHEETMETAL	
CONTRACT NO.		REV A	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± 1°		SHEET CODE B. 07M26	DWG NO. 647.010J
SCALE NONE		SHEET 4 OF 6	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

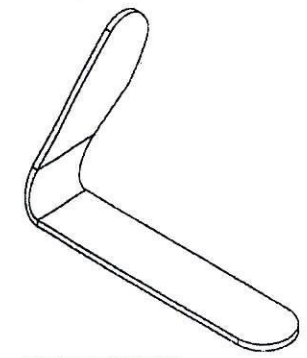
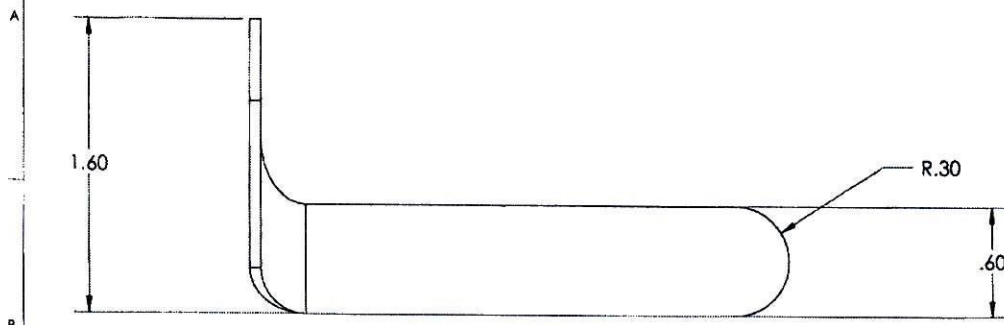
QA Closed: _____ Date: _____

Work Order update only ☐

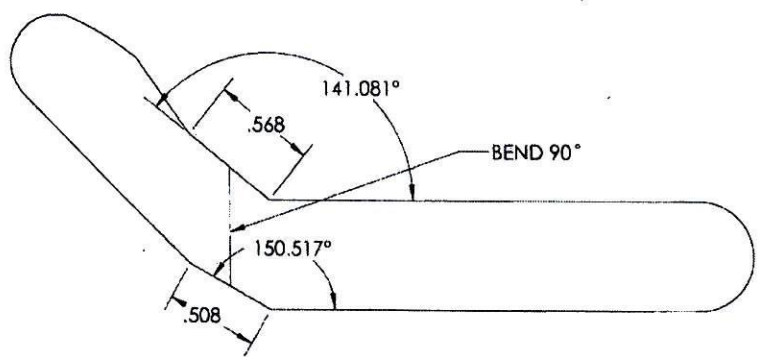
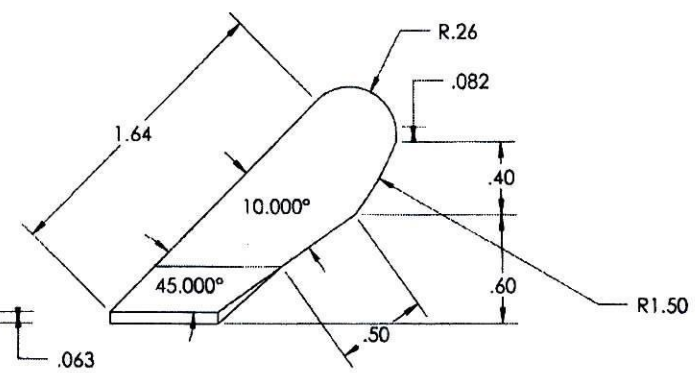
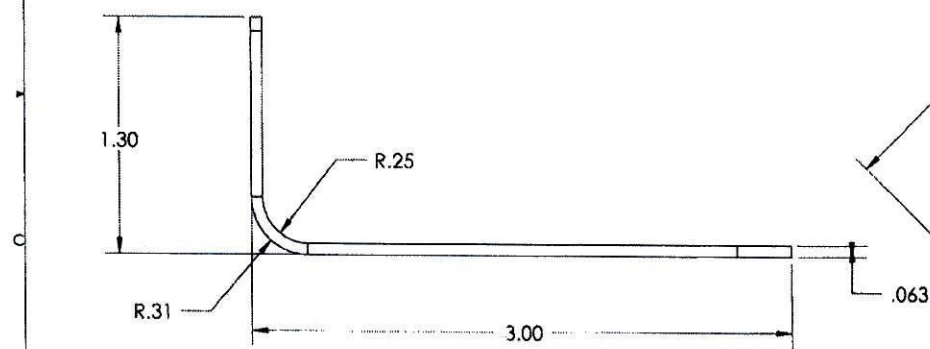
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER :					

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



647.0114 SHOWN
647.0115 OPPOSITE



FLAT PATTERN

ORIGINAL DATE 05-26-08		APICAL INDUSTRIES	
DRAWN BY: J. ROSENO P. BRAVO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY: J. ROSENO P. BRAVO		SHEETMETAL	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ± .01 2 PLACE DECIMALS ± .005 ANGLES ± .5°		SCALE: NONE	SHEET 5 OF 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

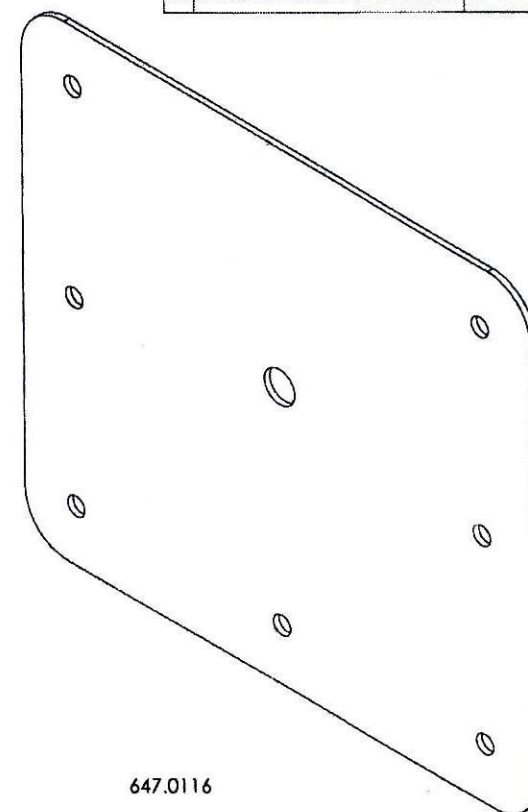
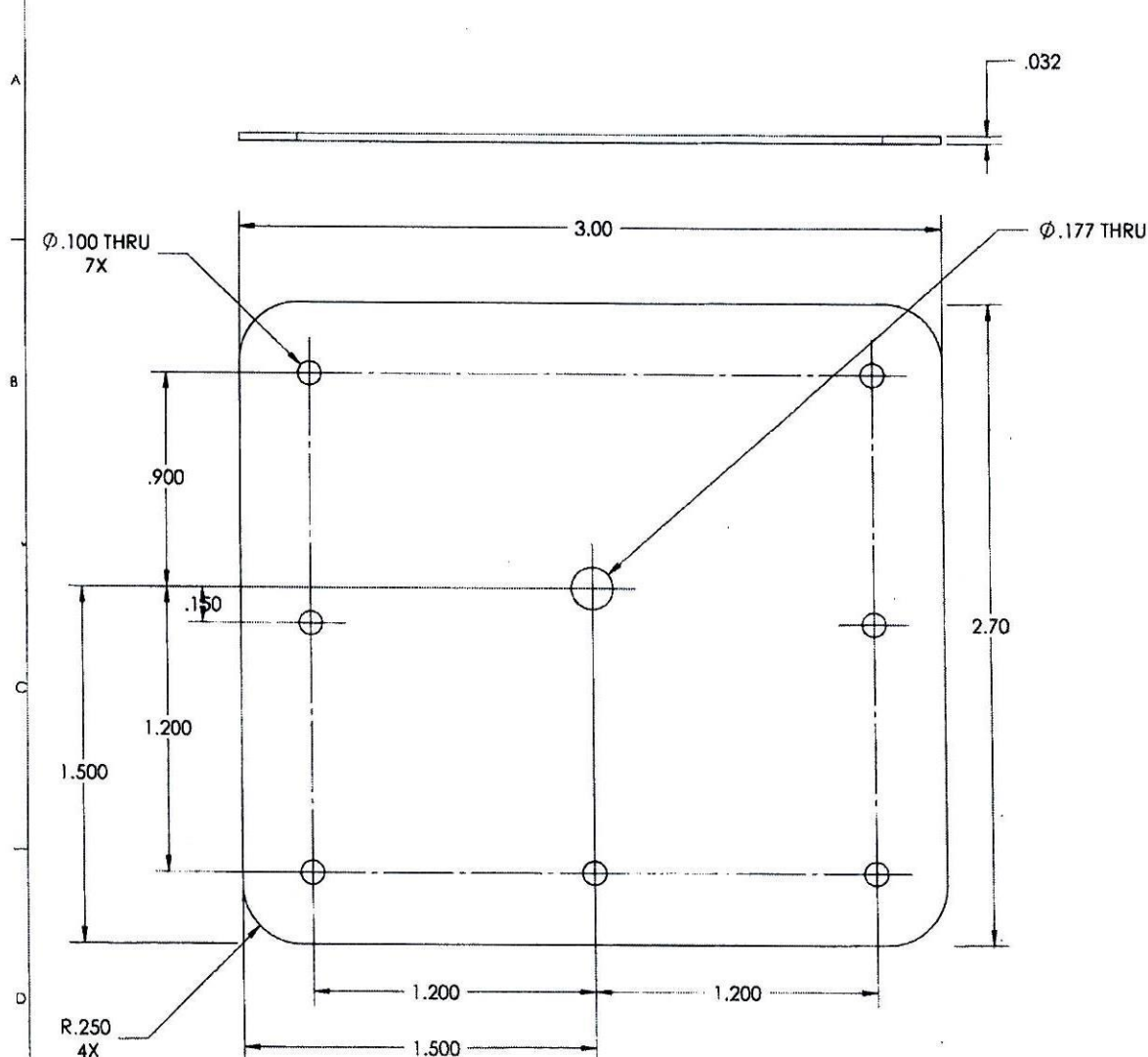
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



647.0116

ORIGINAL DATE 03-28-09		APICAL INDUSTRIES	
DRAWN BY P. SPANU	CHECKED P. SPANU	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300	
DRAWING APPROVAL P. SPANU		SHEETMETAL	
CONTRACT NO.		SCALE NONE	SHEET 6 OF 6
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SIZE CAGE CODE B. 07M26	REV A

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914461

Date: 22-Jan-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
20 ea	Part: 646.3717 Rev: A Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22303 PO: PO038727 Line: 13		
40 ea	Part: 646.3718 Rev: A Custom Washer Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22304 PO: PO038727 Line: 14		
8 ea	Part: 646.3312 Rev: N/C Center Plate Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22307 PO: PO038727 Line: 17		
15 ea	Part: 647.0116 Rev: A Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22295 PO: PO038727 Line: 5		
12 ea	Part: 647.1612 Rev: A Splice Plate Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22295 PO: PO038727 Line: 5		
Made in Canada.			



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO038727

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO038727

PO Date: 1/5/18

Due Date: 1/12/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

JAN 11 2017

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	169405	647.1513	Upper Deflector Issue P/O to ATG : Hard Anodize Color Black / Prime as per Dwg 647.1500 Rev. D	Firmed	1/11/18	12 pcs	0 pcs	12 pcs	\$12.45/pcs	\$149.40
Line Item Note #1 Priority - RUSH!!!										
2	168276	647.0114	Clip Issue P/O ATG, black anodize and prime as per dwg 647.0114 Rev. A	Firmed	1/30/17	50 pcs	0 pcs	50 pcs	\$10.20/pcs	\$510.00
3	168277	647.0115	Clip Issue P/O to ATG : 1- Hard Anodize Color Black And Prime as per Dwg 647.0100 Rev.A	Firmed	1/30/17	50 pcs	0 pcs	50 pcs	\$10.20/pcs	\$510.00
4	168273	647.0111	Panel Issue P/O to ATG : Hard Anodize, Color Black / Prime as per Dwg 647.0100 Rev. A	Firmed	1/30/17	15 pcs	0 pcs	15 pcs	\$39.95/pcs	\$599.25
5	168278	647.0116	Doubler Issue P/O ATG, black anodize and prime as per dwg 647.0116 Rev. A	Firmed	1/30/17	15 pcs	0 pcs	15 pcs	\$8.10/pcs	\$121.50
6	168286	647.1511	Lower Deflector Issue P/O to ATG : Hard Anodize Color Black, Prime as per Dwg 647.1500 Rev. D.	Firmed	1/30/17	4 pcs	0 pcs	4 pcs	\$11.85/pcs	\$47.40
7	169472	647.1612		Firmed	1/30/17	12 pcs	0 pcs	12 pcs	\$7.60/pcs	\$91.20